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ABSTRACT

The study presented in Chapter 6 of "The Economics of Gender in Mexico," examined male-female differences in employment and the incidence of self-employment in rural Mexico. Data were gathered from a survey of 5,189 working-age individuals in rural areas of Guanajuato, Puebla, and Veracruz. Findings indicate that education, age, and household headship were all positively related to employment. However, the presence of very small children in the household reduced the workforce participation of single females but not males. The only significant predictors of single-female self-employment were postsecondary education and residence in Guanajuato, both of which reduced self-employment. For married women, education, age, household headship, household size, and residence in Puebla were all positively related to workforce participation. The presence of young children made employment less attractive for married women. Education increased the likelihood of employment for married women, but not for men. For married women, secondary and postsecondary education increased their chances of being in the salaried sector, compared to self-employment. Low levels of education, being indigenous, a large dwelling unit, residing in Guanajuato or in a large locality, and working in the agricultural sector were all positively related to self-employment for married men and women. Gender-specific differences in workforce and self-employment responses mostly explained the male-female differences in labor market outcomes. Policy strategies are suggested relating to women's education and training, availability of child care, and rural development. (Contains 23 references and 9 tables and boxes.) (TD)

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Gender Issues in Workforce Participation and Self-Employment in Rural Mexico

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The labor market in Mexico has experienced profound gender-related changes over the last two decades. Most notably, occupational segregation has decreased, the female employment rate increased from 31.4 percent in 1987 to 36.1 percent in 1993, and the female–male gender earnings ratio fell from 0.792 to 0.780 during the same period (Brown, Pagán, and Rodríguez-Oreggia 1999). Gender differences in labor market outcomes have been identified as being the result of male–female differences in domestic responsibilities, and the expectation that men are the primary source of income within the household (see Chapters 1 and 2, this volume). These expectations and differentiated roles within the household have a substantial impact on the acquisition of education and labor market experience, with men accumulating more human capital and having longer employment spells over the life cycle than women (see Introduction, this volume).

As a result of these changes in the labor market, the role of gender in economic development has been of interest to social scientists and policymakers. For example, the Mexican government has started to incorporate gender issues when formulating public policy programs and proposals to foster economic growth (*Poder Ejecutivo Federal* 1995). Most international organizations have also integrated gender issues into their development strategies (Inter-American Development Bank 1995). In addition, researchers have recognized that effective policymaking should take into account gender roles over the life cycle, the fact that gender bias is concentrated in only some sectors, and household structure (Chaves and Sánchez 2000; also see Chapter 1, this volume).

This paper is an extension of the paper written by the authors, entitled "Gender Differences in Labor Market Outcomes: Evidence from Rural Mexico," published in *Economic Development and Cultural Change* 48(3):620–37.

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The role of gender-specific factors in male–female differences in Mexico's rural labor market outcomes is particularly policy relevant. The human capital levels of the employed are about equal for men and women; nonetheless, employment rates are much higher for men than for women (Inter-American Development Bank 1995). Furthermore, self-employment rates are about the same for men and women, yet there are substantial differences in human capital and individual responses to self-employment (Parker 1995).

This chapter analyzes the role of gender-specific factors in explaining male–female differences in employment and the incidence of self-employment in rural Mexico. Gender-related labor market outcomes are analyzed using the 1994 Survey of Rural Entrepreneurs and Financial Services.

The empirical analysis begins by studying the differences in employment patterns across gender and marital status to study heterogeneity in household composition. Bivariate probit models of workforce participation and self-employment are then estimated separately for men and women, by marital status. The effects of male–female differences in observable individual, household, and labor market characteristics—including education, experience, fertility, and household demographics—are separated from gender differences that can be attributed to differential responses to employment and self-employment (for example, preferences, available opportunities, labor market discrimination, and other market conditions) using a decomposition analysis based on the Oaxaca (1973) method.

The results indicate that there are substantial gender disparities in individual responses to employment participation and the incidence of self-employment. Gender differences in individual characteristics explain less than one tenth of the observed differences in workforce participation, but male–female differences in employment responses explain most of the gender gap in the workforce participation rate. The incidence of self-employment is higher for married men than for married women, but higher for single women when compared with single men. Hence, policies that focus solely on increasing the productivity-related characteristics of women would have a limited impact on increasing female workforce participation if these are not accompanied by policies addressing differential employment responses—in particular, those affecting the entrance and long-term stay of women in the workforce.

Besides analyzing gender differences in workforce participation and the incidence of self-employment in rural Mexico, this chapter discusses the econometric methodology, presents the data-descriptive statistics and empirical results, discusses the sources of gender differences in work-

force participation and self-employment, proposes public policy recommendations designed to reduce gender inequality, and presents some concluding remarks.

Male–Female Differences in Employment: Conceptual Issues

During the early 1990s, Mexico experienced a substantial increase in the labor force participation rate of women (Brown, Pagán, and Rodríguez-Oreggia 1999). Gender differences in workforce participation narrowed in both urban and less urban areas, yet the reduction of gender differences in labor market outcomes has been more noticeable in self-employment, particularly in less urban areas (Table 6.1).

The participation of women in the self-employment sector also rose during the first half of the 1990s, especially in nonagricultural sectors (Parker 1995). From 1991 to 1995, women accounted for 68 percent of the total rise in nonagricultural self-employment; in the less urban areas, female nonagricultural self-employment increased by almost 90 percent during the same period. This phenomenon is not unique to Mexico; recent trends in the United States and Canada show similar female self-employment growth patterns (Devine 1994; Cohen 1996).

Gender differences in workforce participation in Mexico's rural areas are significant (Table 6.1). When it comes to workforce participation, only

Table 6.1 Workforce Participation and Incidence of Self-Employment in Mexico

	All		*More urban areas*		*Less urban areas*	
	Men	*Women*	*Men*	*Women*	*Men*	*Women*
Workforce participation						
1991	76.4	30.4	72.1	33.9	80.2	27.2
1993	77.2	32.0	72.4	35.7	81.4	28.7
1995	74.7	32.8	69.7	35.5	78.9	30.3
1994*					86.5	28.5
Self-employment**						
1991	36.0	21.0	21.6	14.4	45.3	27.0
1993	33.9	23.9	20.5	15.9	42.0	30.6
1995	32.4	23.7	22.3	13.8	37.8	29.8
1994*					29.8	28.5

* The 1994 Survey of Rural Entrepreneurs and Financial Services.

** Self-employment as a percentage of total employment.

Source: National Employment Survey (various years).

29 percent of women—compared with 87 percent of men—are employed. In contrast, the self-employment rate of men and women are very similar—about 30 percent of working men are self-employed compared to 29 percent of working women.

Conceptually, the observed gender differences in workforce participation and the incidence of self-employment arise from (a) differences in individual, household, and labor market characteristics, including human capital (for example, women having less schooling and work experience than men, gender differences in other productivity-related characteristics); and (b) differential male–female responses to employment choices (for example, household demographics, gender differences in employment preferences, time constraints, and work opportunities).

On the demand side, differential responses might arise from, for example, labor legislation that raises the costs of employing women relative to men, exclusionary practices by male-dominated trade unions, employer preferences, or discrimination. These demand factors can in turn feed back into labor supply decisions by affecting the intertemporal return of joining the labor force, female perceptions on the value of being employed, and, ultimately, the decision to join the workforce, the sectoral choice, and investments in schooling.

In the case of Mexico, there is evidence that the earnings penalty from combining work and school is higher for women than for men, perhaps as a result of gender differences arising from the occupational distribution of workers at a very young age. Some researchers have found that gender differences in the occupational structure at an early age do not allow women to acquire the skills that are better rewarded in other economic sectors as these individuals become adults (see also Brown, Pagán, and Rodríguez-Oreggia 1999; and Chapters 1 and 2, this volume).

Separating the role of male–female differences in responses to labor market outcomes from gender differences in individual, household, and demographic characteristics has important public policy implications when designing policies attempting to reduce gender inequities in the labor market. The relative importance of each component will indicate whether policy measures should focus on reducing gender-related inequities in individual characteristics (for example, male–female differences in schooling), or on attempting to correct gender-related differences in labor market responses.

Empirical Methodology

Individual workforce and self-employment choices can be conceptually based on a relative comparison between the utility obtained from working and not working, and the same type of net utility comparison can

be used to analyze the choice of becoming self-employed or working for a wage or salary. Utility is derived from the pecuniary and nonpecuniary aspects of these choices (Mortensen 1986). For example, if offered wages from salaried work and self-employment are below the minimum wage necessary to entice individuals to work—the reservation wage—then potential workers will choose not to work. Of those choosing to work, some will select self-employment if the expected benefits in this sector are higher than in the wage and salary sector (Pagán and Sánchez 2000).

The determinants of these two choices can be modeled using a bivariate probit approach: first, an analysis of the determinants of the propensity of individuals to enter the workforce is conducted, and second, the determinants of the incidence of self-employment are analyzed. The labor market decisions themselves are modeled as dichotomous dependent variables using a bivariate probit model with selectivity because the sector of employment decision is only observed for those employed (Brown and Pagán 1998). A correlation parameter across errors captures whether those unobserved factors that increase the likelihood of workforce participation are also related to the self-employment choice.

The model is estimated separately by gender and marital status to capture whether rural labor markets are segmented.[1] The empirical model incorporates labor demand and supply factors through personal and household characteristics and local labor market conditions.

An Oaxaca-type (1973) decomposition adapted for the probit case is employed to analyze the sources of the observed gender differences in workforce and sectoral employment outcomes in rural Mexico (Jones and Makepeace 1996; Pagán and Tijerina-Guijardo 2000). As discussed above, there are two possible explanations as to the existence of gender differences in workforce participation and self-employment. First, gender differences could arise as a result of male–female differences in observable individual, household, and labor market characteristics. Alternatively, men and women might respond differently to workforce participation and self-employment, perhaps as a result of gender-related differences in individual preferences for work, or simply labor market discrimination.[2]

Data and Empirical Results

As mentioned, gender differences in workforce participation and self-employment outcomes are analyzed using microdata from the 1994 Survey of Rural Entrepreneurs and Financial Services (*Encuesta Regional de Servicios Financieros a Unidades de Producción Rural*, SREFS). See Box 6.1 for a description of how the survey was conducted and for a discussion on model estimation.

Box 6.1 How the 1994 SREFS Was Conducted and Some Model Details

The SREFS was conducted in the summer of 1994 in rural regions in the states of Guanajuato (Bajío Guanajuatense), Puebla (Sierra Norte de Puebla), and Veracruz (Huasteca Veracruzana).

The survey universe includes rural entrepreneurs residing in localities with a population of 1,000 to 20,000 inhabitants in the three selected areas, with the sampling unit being the household, due to the lack of a framework specifically designed for rural entrepreneurs (see Chaves and Sánchez 2000 for details). The SREFS contains data on the labor market decisions of respondents, household demographic characteristics, and individual-level basic socioeconomic data. The full sample consists of 8,512 individuals, of which 5,189 were 15 years old or more and, thus, considered eligible to work.

The model outlined in the previous section was estimated using explanatory variables that can be grouped into three categories: personal characteristics, household demographics, and current labor market and economic conditions. Table 6.2 reports the variables used in the analysis and the descriptive statistics for the full sample, by gender and marital status.

Personal characteristics include the level of education (specified by a series of dummy variables indicating the different levels of the highest educational attainment), age and its square, a dummy variable for head of household, and whether the individual speaks an indigenous language.[3] Household characteristics include the number of children living in the household (divided into two age groups: 0 to 2 and 3 to 5), total number of rooms in the dwelling unit, total number of working individuals in the household (excluding the respondent), and whether the respondent owns the home. Local labor market and economic conditions are captured by the number of inhabitants in the locality of residence, the percentage of workers employed in the secondary and tertiary sectors in the locality of residence, and an agricultural sector dummy.[4]

Theoretically, these explanatory variables may solely influence labor demand, labor supply, or both. For example, marital status and the total number of young children living at home most likely influence both labor supply and demand since they affect the value of nonmarket activities. Furthermore, if employers discriminate against married women, then marital status also affects labor demand.

Some variables influence only individual labor demand since they capture current labor market conditions (for example, the number of inhabitants in the locality of residence and the percentage of workers in the secondary and tertiary sectors in the locality of residence).

An indigenous background is related to labor supply decisions through, for example, culture and tradition. On the other hand, employers (and consumers) may potentially discriminate on the basis of ethnicity. Similarly, educational levels are also a function of both labor demand and supply responses.[5]

Table 6.2 shows that in the rural areas surveyed single men and women have higher levels of education than married men and women. Single women are relatively older than single men, but married men are older than married women. Indigenous individuals are also more likely to be married than nonindigenous individuals.

Almost 18 percent of single women are household heads compared to 29 percent of single men. Married men, however, have the highest headship rate (83.8 percent) and single women the lowest (2.2 percent). In urban areas, however, gender differences in household headship are less pronounced (see Chapter 3, this volume).

Table 6.3 reports descriptive statistics for the employed. Both single and married employed females have somewhat higher educational levels than single and married employed males. In addition, employed single females are older than employed single males, but employed married males are older than employed married females.

Employment rates are relatively lower for both single and married indigenous women when compared to men. About 84 percent of married men are household heads compared to only 4.1 percent of married women. However, 24 percent of employed single women are heads of households. As one would expect, married individuals who are employed have more young children. About 40.4 percent of married men are employed in the agricultural sector compared to 5 percent of married women. Qualitatively similar gender differences in sectoral employment are observed for singles.

Table 6.4 presents descriptive statistics for the self-employed. Both male and female entrepreneurs have relatively low levels of education, particularly single and married females. Married self-employed men are also older than single male and single and married female entrepreneurs. Interestingly, more than 90 percent of self-employed married men are heads of households, but only 6.7 percent of self-employed married women are heads of households. Married entrepreneurs have more children, particularly married women, and come from larger households. Married men have larger dwelling units, followed by single women, married women, and single men.

About 40.4 percent of married male entrepreneurs are in the agricultural sector, but only 5.2 percent of married women. A similar result ensues for single men and women. Thus, there seems to be substantial sectoral segmentation across genders.

Tables 6.5 and 6.6 report the results from the bivariate probit estimations for single and married men and women. Both models include the same regressors since both decisions are likely to be influenced by per-

(Text continues on page 217.)

Table 6.2 Descriptive Statistics: Full Sample

	Single men		*Single women*		*Married men*		*Married women*	
	Mean	*S.D.*	*Mean*	*S.D.*	*Mean*	*S.D.*	*Mean*	*S.D.*
Personal characteristics								
Incomplete primary (1 = yes)	0.207	0.406	0.205	0.404	0.319	0.466	0.269	0.444
Completed primary (1 = yes)	0.193	0.395	0.200	0.400	0.201	0.401	0.244	0.430
Some secondary (1 = yes)	0.243	0.429	0.198	0.398	0.149	0.357	0.144	0.351
Some postsecondary (1 = yes)	0.238	0.426	0.165	0.371	0.118	0.323	0.078	0.268
Age	29.423	16.388	34.370	19.210	43.122	15.219	39.051	13.590
Age squared/ 100	11.341	14.582	15.501	17.861	20.910	14.915	17.095	11.957
Indigenous (1 = yes)	0.160	0.366	0.173	0.378	0.212	0.409	0.187	0.390
Household characteristics								
Household head (1 = yes)	0.290	0.454	0.176	0.381	0.838	0.369	0.022	0.148
Children aged 0–2	0.288	0.571	0.291	0.584	0.385	0.627	0.389	0.630
Children aged 3–5	0.308	0.577	0.310	0.590	0.408	0.608	0.411	0.612
Working individuals in the household	1.447	1.331	1.652	1.281	0.862	1.137	1.588	1.139
Rooms in dwelling	3.220	1.728	3.242	1.652	3.203	1.685	3.257	1.701
Household owns dwelling (1 = yes)	0.741	0.439	0.747	0.435	0.761	0.426	0.760	0.427
Region/labor market conditions								
Guanajuato (1 = yes)	0.292	0.455	0.300	0.458	0.418	0.493	0.423	0.494
Puebla (1 = yes)	0.334	0.472	0.357	0.479	0.273	0.445	0.271	0.444
Inhabitants in locality of residence (000s)	7.890	5.469	8.003	5.419	7.982	5.783	8.044	5.835
Percentage employed in secondary sector	6.103	3.604	5.858	3.489	5.948	3.832	5.953	3.820
Percentage employed in terciary sector	9.919	4.739	10.273	5.009	9.171	4.773	9.183	4.792
N	1,191		1,402		1,266		1,297	

Table 6.3 Descriptive Statistics: Employed

	Single men		*Single women*		*Married men*		*Married women*	
	Mean	*S.D.*	*Mean*	*S.D.*	*Mean*	*S.D.*	*Mean*	*S.D.*
Personal characteristics								
Incomplete primary (1 = yes)	0.232	0.422	0.190	0.393	0.314	0.464	0.205	0.405
Completed primary (1 = yes)	0.224	0.417	0.220	0.415	0.206	0.404	0.172	0.378
Some secondary (1 = yes)	0.249	0.433	0.218	0.413	0.154	0.361	0.236	0.425
Some postsecondary (1 = yes)	0.176	0.381	0.206	0.405	0.123	0.328	0.254	0.436
Age	29.799	15.124	32.274	15.097	41.591	13.741	37.336	10.925
Age squared/ 100	11.164	12.821	12.691	12.733	19.184	12.703	15.129	9.061
Indigenous (1 = yes)	0.181	0.386	0.134	0.341	0.218	0.413	0.123	0.329
Household characteristics								
Household head (1 = yes)	0.338	0.473	0.240	0.428	0.840	0.367	0.041	0.199
Children aged 0–2	0.323	0.592	0.260	0.591	0.403	0.636	0.302	0.542
Children aged 3–5	0.341	0.601	0.282	0.572	0.420	0.613	0.362	0.580
Working individuals in the household	1.380	1.369	1.544	1.323	0.833	1.119	2.257	1.052
Rooms in dwelling	3.058	1.621	3.380	1.697	3.173	1.682	3.657	1.799
Household owns dwelling (1 = yes)	0.729	0.445	0.752	0.432	0.757	0.429	0.675	0.469
Region/labor market conditions								
Guanajuato (1 = yes)	0.288	0.453	0.326	0.469	0.417	0.493	0.287	0.453
Puebla (1=yes)	0.338	0.473	0.364	0.482	0.277	0.448	0.384	0.487
Inhabitants in locality of residence	7.544	5.223	8.481	5.620	7.842	5.713	8.929	5.810
Percentage employed in secondary sector	6.010	3.625	6.230	3.478	5.901	3.837	5.977	3.088
Percentage employed in terciary sector	9.587	4.647	10.908	4.939	9.076	4.757	11.761	5.102
Economic sector								
Agriculture (1 = yes)	0.318	0.466	0.082	0.275	0.404	0.491	0.052	0.223
N	943		500		1,182		268	

Table 6.4 Descriptive Statistics: Self-Employed

	Single men		*Single women*		*Married men*		*Married women*	
	Mean	*S.D.*	*Mean*	*S.D.*	*Mean*	*S.D.*	*Mean*	*S.D.*
Personal characteristics								
Incomplete primary (1 = yes)	0.322	0.469	0.287	0.454	0.362	0.481	0.378	0.488
Completed primary (1 = yes)	0.208	0.407	0.217	0.414	0.216	0.412	0.200	0.402
Some secondary (1 = yes)	0.142	0.350	0.155	0.363	0.109	0.312	0.144	0.354
Some postsecondary (1 = yes)	0.120	0.326	0.070	0.256	0.082	0.275	0.067	0.251
Age	43.765	18.423	44.039	15.846	46.867	13.819	42.622	11.165
Age squared/ 100	22.529	17.928	21.886	14.967	23.870	13.843	19.399	10.077
Indigenous (1 = yes)	0.262	0.441	0.171	0.378	0.329	0.470	0.178	0.384
Household characteristics								
Household head (1 = yes)	0.732	0.444	0.543	0.500	0.929	0.257	0.067	0.251
Children aged 0–2	0.311	0.589	0.217	0.599	0.329	0.584	0.311	0.574
Children aged 3–5	0.290	0.572	0.178	0.458	0.356	0.561	0.267	0.515
Working individuals in the household	0.874	1.430	1.101	1.172	0.651	1.010	1.333	1.071
Rooms in dwelling	2.880	1.670	3.364	1.828	3.499	1.872	3.389	1.733
Household owns dwelling (1 = yes)	0.699	0.460	0.760	0.429	0.813	0.390	0.667	0.474
Region/labor market conditions								
Guanajuato (1 = yes)	0.137	0.344	0.225	0.419	0.293	0.456	0.400	0.493
Puebla (1=yes)	0.421	0.492	0.442	0.499	0.342	0.475	0.311	0.466
Inhabitants in locality of residence	7.047	4.562	7.864	5.405	7.212	5.364	9.231	6.002
Percentage employed in secondary sector	5.044	3.173	5.497	2.683	5.003	3.337	6.091	3.281
Percentage employed in terciary sector	9.486	4.821	11.111	4.854	8.570	4.612	10.584	4.754
Economic sector								
Agriculture (1 = yes)	0.318	0.466	0.082	0.275	0.404	0.491	0.052	0.223
N	183		129		450		90	

Table 6.5 Employment and Sector Bivariate Probit: Single Males and Females

	Employment vs. unemp./OLF			
	Males		*Females*	
	Coeff.	*S.E.*	*Coeff.*	*S.E.*
Constant	–1.107	0.416***	–2.181	0.284***
Personal characteristics				
Incomplete primary (1 = yes)	0.450	0.186**	0.089	0.124**
Completed primary (1 = yes)	0.757	0.201***	0.327	0.125***
Some secondary (1 = yes)	0.378	0.204*	0.375	0.137***
Some postsecondary (1 = yes)	–0.261	0.206	0.494	0.148***
Age	0.112	0.016***	0.065	0.011***
Age squared/100	–0.133	0.016***	–0.086	0.011***
Indigenous (1 = yes)	0.324	0.178*	0.096	0.128
Household characteristics				
Household head (1 = yes)	0.588	0.187***	0.694	0.121***
Children aged 0–2	0.213	0.100**	–0.070	0.066
Children aged 3–5	0.062	0.106	–0.009	0.065
Working individuals in the household	–0.025	0.045	–0.073	0.031**
Rooms in dwelling	–0.060	0.029**	0.022	0.023
Household owns dwelling (1 = yes)	0.102	0.122	0.077	0.092
Region/labor market conditions				
Guanajuato (1 = yes)	0.086	0.147	0.292	0.108***
Puebla (1 = yes)	0.095	0.127	0.146	0.092
Inhabitants in locality of residence	–0.008	0.011	–0.004	0.009
Percentage employed in secondary sector	0.006	0.017	0.026	0.014*
Percentage employed in terciary sector	–0.010	0.015	0.022	0.011***
	Self-employment vs. salaried sector			
	Males		*Females*	
	Coeff.	*S.E.*	*Coeff.*	*S.E.*
Constant	–3.242	0.622***	–1.179	4.345
Personal characteristics				
Incomplete primary (1 = yes)	0.464	0.202**	0.198	0.312
Completed primary (1 = yes)	0.602	0.228***	–0.207	0.341
Some secondary (1 = yes)	0.460	0.243*	–0.016	0.482
Some postsecondary (1 = yes)	0.313	0.255	–0.617	0.353*
Age	0.065	0.026**	0.049	0.108
Age squared/100	–0.040	0.032	–0.024	0.118

	Self-employment vs. salaried sector			
	Males		*Females*	
	Coeff.	*S.E.*	*Coeff.*	*S.E.*
Indigenous (1 = yes)	–0.226	0.193	–0.270	0.255
Household characteristics				
Household head (1 = yes)	0.727	0.160***	0.341	0.886
Children aged 0–2	0.011	0.105	0.017	0.140
Children aged 3–5	–0.167	0.122	–0.160	0.174
Working individuals in the household	0.053	0.042	0.010	0.107
Rooms in dwelling	0.048	0.042	0.017	0.053
Household owns dwelling (1 = yes)	–0.029	0.140	0.240	0.282
Region/labor market conditions				
Guanajuato (1 = yes)	–0.668	0.214***	–0.437	0.230*
Puebla (1 = yes)	0.003	0.146	–0.073	0.204
Inhabitants in locality of residence	0.024	0.016	0.004	0.017
Percentage employed in secondary sector	–0.026	0.024	–0.038	0.035
Percentage employed in terciary sector	–0.021	0.018	–0.015	0.024
Economic sector				
Agriculture (1 = yes)	0.500	0.141***	–0.053	0.312
ρ	0.464	0.560	–0.488	1.265
χ^2	507.473		311.880	
Pseudo-R^2	0.279		0.129	
N	1,191		1,402	

*/**/*** Significant at the 90, 95, and 99 percent confidence intervals, respectively.

Table 6.6 Employment and Sector Bivariate Probit: Married Males and Females

	Employment vs. unemp./OLF			
	Males		*Females*	
	Coeff.	*S.E.*	*Coeff.*	*S.E.*
Constant	1.199	0.797	–2.952	0.507***
Personal characteristics				
Incomplete primary (1 = yes)	–0.044	0.226	0.184	0.143
Completed primary (1 = yes)	–0.169	0.259	0.077	0.165

(Table continues on the following page.)

Table 6.6 (continued)

	Employment vs. unemp./OLF			
	Males		*Females*	
	Coeff.	*S.E.*	*Coeff.*	*S.E.*
Some secondary (1 = yes)	0.037	0.325	0.670	0.174***
Some postsecondary (1 = yes)	–0.074	0.406	1.404	0.212***
Age	0.052	0.031*	0.083	0.020***
Age squared/100	–0.100	0.027***	–0.094	0.023***
Indigenous (1 = yes)	0.457	0.260*	–0.141	0.165
Household characteristics				
Household head (1 = yes)	0.853	0.307***	0.586	0.315*
Children aged 0–2	0.320	0.164*	–0.067	0.082
Children aged 3–5	–0.017	0.155	–0.060	0.083
Working individuals in the household	–0.106	0.065*	–0.202	0.040***
Rooms in dwelling	–0.037	0.054	0.030	0.030
Household owns dwelling (1 = yes)	0.077	0.228	–0.231	0.111**
Region/labor market conditions				
Guanajuato (1 = yes)	0.332	0.261	0.040	0.134
Puebla (1 = yes)	0.136	0.265	0.235	0.128*
Inhabitants in locality of residence	–0.042	0.019**	0.005	0.011
Percentage employed in secondary sector	0.007	0.034	–0.011	0.017
Percentage employed in terciary sector	0.006	0.030	0.053	0.014***
	Self-employment vs. salaried sector			
	Males		*Females*	
	Coeff.	*S.E.*	*Coeff.*	*S.E.*
Constant	–2.149	0.619***	0.807	3.859
Personal characteristics				
Incomplete primary (1 = yes)	0.299	0.124**	0.120	0.371
Completed primary (1 = yes)	0.558	0.150***	0.059	0.268
Some secondary (1 = yes)	0.215	0.171	–0.718	0.271***
Some postsecondary (1 = yes)	0.026	0.184	–1.468	0.320***
Age	0.005	0.027	0.006	0.123
Age squared/100	0.018	0.032	0.017	0.119
Indigenous (1 = yes)	0.242	0.132*	0.439	0.390
Household characteristics				
Household head (1 = yes)	0.565	0.164***	–0.076	0.697
Children aged 0–2	–0.023	0.084	0.248	0.201
Children aged 3–5	0.086	0.077	–0.008	0.145
Working individuals in the household	–0.138	0.042***	0.175	0.091*

	Self-employment vs. salaried sector			
	Males		*Females*	
	Coeff.	*S.E.*	*Coeff.*	*S.E.*
Rooms in dwelling	0.153	0.028***	–0.049	0.045
Household owns dwelling (1 = yes)	0.149	0.107	–0.012	0.317
Region/labor market conditions				
Guanajuato (1 = yes)	–0.519	0.128***	0.262	0.361
Puebla (1 = yes)	–0.020	0.113	–0.186	0.217
Inhabitants in locality of residence	0.025	0.010**	–0.002	0.018
Percentage employed in secondary sector	–0.019	0.015	–0.002	0.035
Percentage employed in terciary sector	–0.017	0.014	–0.031	0.036
Economic sector				
Agriculture (1 = yes)	0.642	0.106***	–0.303	0.389
ρ	–0.181	0.654	–0.869	0.543*
χ^2	541.24		345.98	
Pseudo-R^2	0.248		0.208	
N	1,266		1,297	

*/**/*** Significant at the 90, 95, and 99 percent confidence intervals, respectively.

sonal characteristics, household demographics, and current labor market and economic conditions. In addition, the self-employment equations include a dummy variable capturing whether individuals work in the agricultural sector. This is important because self-employed females are largely found in nonagricultural sectors (Tables 6.3 and 6.4).

The models have a reasonable fit, as suggested by the χ^2 and pseudo-R^2 measures reported in the tables. Table 6.5 clearly shows that there is great heterogeneity across gender when it comes to workforce participation and the incidence of self-employment.

Education, age, and household headship are all positively related to employment. However, the presence of very small children in the household reduces the workforce participation of single females but not males. There is also great heterogeneity in employment probabilities in the location of residence for women but not for men, suggesting that employment opportunities differ greatly across communities for women but not for men. The size of the labor market, provided by the number of inhabitants in the locality of residence, plays no role in either the employment or sectoral choices of single men.

When it comes to the self-employment choice, schooling, age, household headship, the size of the locality of residence, and employment in the agricultural sector, all are positively related to single males being self-employed. However, the only statistically significant predictors of single female self-employment are some postsecondary education and residence in Guanajuato, as compared to all other regions—both of which reduce the self-employment propensity of single women.

Table 6.6 reports the regression results for married men and women. Once again, substantial heterogenity across gender exists in the employment and entrepreneurship choices. When it comes to workforce participation, only age, an indigenous background, and being a household head are positively related to married male employment. For married women, education, age, household headship, household size—which measures wealth—and residence in Puebla—are all positively related to workforce participation. However, the number of working individuals in the household and dwelling ownership are negatively related to the likelihood of employment.

The size of the labor market—as reflected by the number of inhabitants in the locality of residence—influences gender differences in workforce participation either because a greater range of job opportunities exists for women in larger localities, or simply because women perceive having more opportunities in larger communities and, thus, are more likely to seek and find employment in these localities. In contrast, men in larger localities are less likely to be working than in smaller localities. This may be a result of men searching more intensively for a job before accepting one in larger communities, or perhaps a result of men facing more competition from female labor in more populated areas.

Gender differences in workforce participation across regions can be attributed to regional differences in labor market opportunities and regional differences in productivity. Moreover, the composition of the local economy may also be an important determinant of employment. The results show that this is true only for females; that is, the female employment propensity is larger when the tertiary sector in the community of residence is large. Thus, the availability of employment opportunities in the service-related tertiary sector seems to significantly increase employment opportunities for married women.

Gender differences in the impact of small children on employment are most likely related to male–female differences in the household allocation of time to market and nonmarket activities, and specialization within the household (Blau and Ferber 1992). In particular, the presence of young children could make current working opportunities less attractive for married women. In addition, it is interesting to note that schooling plays

a role in increasing the likelihood of employment for married women, but not for men.

The bottom half of Table 6.6 also reports the results for the self-employment choice of married men and women. Low levels of education, being indigenous, having a large dwelling unit, residing in Guanajuato and in a large locality, and working in the agricultural sector are all positively related to self-employment. However, having a large household reduces the likelihood of being self-employed. In particular, wealthier men—proxied by dwelling size—might select self-employment because they are less likely to experience liquidity constraints for starting a business or for staying in business (Evans and Jovanovic 1989; Evans and Leighton 1989).

For married women, secondary and postsecondary education increases the chances that they are in the salaried sector when compared to self-employment. This is consistent with the hypothesis that education is positively related to the propensity of being in a salaried occupation, perhaps as a result of the existence of less labor market discrimination for more experienced, more educated Mexican women (see Pagán and Ullibarri 2000 for empirical evidence).

Decomposing Gender Differences in Labor Market Outcomes

Table 6.7 reports the results from the decomposition analysis of gender differences in workforce and self-employment rates discussed above. Only about 35.66 percent of single women are employed compared to 79.18 percent of single men. If the bivariate probit model estimates for single males are used to predict the employment rate of single females, the employment rate of women would increase to 75.76 percent.

Table 6.7 also shows the decomposition of the 43.51 percent employment rate differential between single men and women. Most of this differential—99.03 percent—is explained by gender differences in individual responses to employment and only 0.97 percent is explained by male–female differences in personal characteristics. Thus, the results suggest that the rural labor market in Mexico is heavily segmented by gender, and that women's workforce participation rates would more than double if they had the same workforce responses as men.

The gender gap between married men and women is much larger; 93.36 percent of married men are employed but only 20.66 percent of married women are employed. The predicted employment rate for married women is 88.6 percent, which suggests that when compared to their male counterparts, married women face more barriers to employment than single women.

Table 6.7 Decomposition Analysis of Gender Differences in Workforce Participation and Self-Employment

	Workforce participation	*Percentage*	*Self-Employment*	*Percentage*
Single men				
Observed	79.18		19.41	
Single women				
Observed	35.66		25.80	
Predicted	75.76		15.44	
Observed gender difference	43.51	100.00	–6.39	100.00
Due to individual characteristics	0.42	0.97	3.96	61.97
Due to differential responses	43.09	99.03	–10.35	–161.97
Married men				
Observed	93.36		38.07	
Married women				
Observed	20.66		33.58	
Predicted	88.06		15.82	
Observed gender difference	72.70	100.00	4.49	100.00
Due to individual characteristics	5.30	7.29	22.26	510.02
Due to differential responses	67.40	92.71	–17.77	–362.65

This finding is partly a result of specialization of labor and tasks within the household. However, it is also consistent with the idea that the accumulation of skills differs by gender from an early age within the life cycle, and the male–female differences in acquired experience obtained at a young age reduces the propensity of employment of married women (see Chapter 2, this volume).

When it comes to the incidence of self-employment, the decomposition analysis of gender differences shows that gender-related differential responses work in an opposite direction from the male–female differences in productive characteristics. Self-employment rates are 19.41 percent for single males and 25.80 percent for females; yet, if the bivariate probit estimates were used to predict the incidence of female self-employment, this would decrease to 15.44 percent.

This result is consistent with the idea that women might be relatively concentrated in self-employment due to barriers to entry into salaried jobs and to household structure. This idea is further reinforced by the findings in the decomposition analysis that single male–female differential responses to self-employment explain most of the overrepresentation of single women in entrepreneurial activities.

Married women have a lower incidence of self-employment than married men (38.07 versus 33.58 percent). Nonetheless, the predicted self-employment rate of married women is 15.82 percent, which implies that married women are relatively overrepresented in this sector. An interesting result here is that most of the male–female self-employment gap is explained by differences in individual characteristics and not differential responses to self-employment. In other words, the productive characteristics of married women are substantially different from those of married men, a result consistent with the idea that marked specialization of labor and tasks is prevalent within rural households in Mexico.

Gender-specific preferences for type of employment, culture, childcare options, and labor market discrimination in the wage/salary sector might explain how differential responses could potentially induce women into self-employment (Duval Hernández 1999; and Psacharopoulos and Tzannatos 1992). According to the results, self-employment might be a relatively more attractive choice for women for various reasons: it might offer easy entry into the labor force and a flexible work schedule, and it might also allow women to work from a home-based setting. Nonetheless, the empirical results are also consistent with the conjecture that women are disproportionately represented in self-employment as a result of relatively lower barriers to entry into this sector, perhaps as a result of labor market discrimination in the wage and salary sector.

Conclusion

The labor force participation of women has been steadily increasing over the last three decades (Brown, Pagán, and Rodríguez-Oreggia 1999; Parker 1995). Thus, continuing growth is contingent upon the implementation of public policy measures that are consistent with increasing labor force participation. The results of this study have important implications for labor market public policy in rural Mexico. The national development plan, Plan Nacional de Desarrollo, 1995–2000, considers gender equity an important component of the country's overall economic development strategy through "the promotion of a set of programs and actions that guarantee women equal

opportunity in education, training and employment." In particular, the national development plan calls for government programs that seek to correct male–female inequities in employment outcomes, and it recognizes gender as a legitimate criterion in the development and implementation of these programs (Poder Ejecutivo Federal 1995).

The main message of this chapter is that policies focusing solely on, for example, increasing the relative human capital levels of women have a limited impact on reducing gender inequality if they are not accompanied by policy measures addressing the sources of gender differences in responses to workforce participation and self-employment. Although some of the gender differences in responses are certainly due to individual choice, and despite the fact that women perform valuable nonmarket work that is not captured by the standard labor measures, male–female differences in labor market access and discrimination might also explain the observed gender differences in responses.

Given the results of this study, public policy measures can be implemented to reduce gender disparities in workforce participation in rural Mexico. For example, policies that attempt to reduce the gap between offered and reservation wages end up increasing the workforce participation of women. As suggested by Nakamura, Nakamura, and Cullen (1979), public policies designed to increase the offered wage rate of women might be more effective than programs decreasing the reservation wage. Examples of these policies are the stimulation of female-dominated industries and occupations instead of implementing equal pay legislation or gender-based job quotas.

In addition, the negative impact of the presence of young children on the employment rates of married women suggests that community-based childcare services might be an effective way to meet the needs for safe, affordable childcare while at the same time providing employment opportunities for women who run the programs. Husbands also need incentives to contribute to home-based work. The results point out that the need to balance family and market responsibilities is a major source of male–female differences in responses to employment (Blau 1998).

The findings also illustrate the strong and positive effect of education on the workforce participation of single and married women. Policy measures that provide better access to formal and informal education expand employment choices, increase the capacity of women to respond to market opportunities, and lead to increasing productivity and earnings (see Chapter 1, this volume).

Gender-specific differences in workforce and self-employment responses mostly explain the male–female differences in labor market outcomes. As such, strategies attempting to diminish these differential responses would have a desirable long-term impact on reducing gender

disparities in the labor market. For example, the finding that the presence of young children has a different impact across gender in the work and self-employment choices suggests the existence of within-family gender barriers.

Finally, labor market discrimination is evident in the findings of an unexplained gender gap in workforce participation, together with an overrepresentation of women in the self-employment sector compared to the wage and salary sector. In a rural setting, this is more difficult to eradicate if the bias is rooted in employer preferences and, particularly, if rural labor and production markets are not integrated into the formal economy. Thus, policies promoting rural development and more competition in the rural wage and salary sector and in production markets might be effective in reducing employer bias.

The study has some limitations, which are related mostly to the survey data employed. For example, the survey is representative of only the rural areas of the states of Guanajuato, Puebla, and Veracruz. There is also a lack of alternative measures of human capital that might be relevant in a rural setting (for example, measures of physical strength and endurance), and there are limitations in our proxy for tenure and actual labor market experience. Nonetheless, the study can be helpful in assessing the expected impact of different labor market policies, and also provides a benchmark for other studies dealing with gender disparities in employment outcomes in rural settings.

Notes

1. Likelihood ratio tests suggest that individual responses to workforce participation and self-employment differ by gender and marital status.

2. The probit decomposition employed here is thoroughly discussed by Brown and Pagán (1998) and Pagán and Sánchez (2000).

3. Age is used primarily to proxy labor market experience, although admittedly it also captures changes in employment outcomes over the life cycle (Dávila and Pagán 1999; Psacharopoulos and Tzannatos 1992).

4. The secondary sector includes mineral extraction, manufacturing, and construction. The tertiary sector includes trade, transportation, and all the service-related sectors.

5. The specification of educational levels employed in this study is fairly standard in the literature, although it is subject to the usual criticism that it does not

incorporate quality of education, time spent in school, and informal schooling and training, which are particularly important when analyzing rural labor market outcomes.

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